



# Coimisiún na Scrúduithe Stáit State Examinations Commission

Leaving Certificate Applied 2012

## Vocational Specialism

### Agriculture/Horticulture

(240 marks)

Wednesday 13 June 2012, Morning, 9.30 to 11.00.

#### *General Directions*

1. Write your EXAMINATION NUMBER in this space:

2. WRITE ALL ANSWERS INTO THIS ANSWERBOOK.

THERE ARE TWO SECTIONS IN THIS EXAMINATION PAPER.

*Section One:* One question, of which **twelve** parts must be answered.  
Each part carries 10 marks.

*Section Two:* Candidates must answer any **four** questions from this section, based on the modules studied. Each question carries 30 marks.

For the Superintendent only.	For the Examiner only.	
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> <p><b>Centre Stamp</b></p> </div>	1. <i>Total of end of page totals.</i>	
	2. <i>Aggregate total of all disallowed questions.</i>	
	3. <i>Total mark awarded (1 minus 2).</i>	
	4. <i>Bonus mark for answering through Irish (if applicable).</i>	
	5. <i>Total mark if Irish bonus awarded (3 plus 4).</i>	
	<p><i>Note: The mark in row 3 (or in row 5 if an Irish bonus is awarded) must equal the mark in the 'Total' box on the marking grid on page 20.</i></p>	

**Section One**

**(120 marks)**

**Question 1. This is made up of eighteen parts i.e. (a) to (r).**

**Any 12 parts must be answered. All parts carry equal marks (10 marks each).**

1. (a) Name the plant structure shown in the photograph.

\_\_\_\_\_

Name a plant that reproduces using this structure.

\_\_\_\_\_



(b) State **one** function of a plant stem.

\_\_\_\_\_

What are root hairs for in a plant?

\_\_\_\_\_

(c) Perlite or vermiculite is added to potting compost to

\_\_\_\_\_

Why is sand or grit added to potting compost?

\_\_\_\_\_

(d) The **three** main nutrient elements in a fertiliser are nitrogen (N), potassium (K) and

\_\_\_\_\_

A fertiliser used for growing tomatoes and fruit is rich in the element

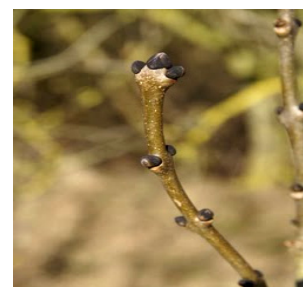
\_\_\_\_\_

(e) The twig in the photograph is from which type of common Irish tree?

\_\_\_\_\_

A piece of sporting equipment made from the timber of this tree is

\_\_\_\_\_



(f) The term 'oestrus' in an animal refers to

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What is meant by the initials 'A. I.'?

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(g) Cheese is most often made from the milk of cows **and**

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When making cheese, the enzyme rennin is used to

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(h) Name the part of the milking machine shown in the photograph.

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How does a milking machine work?

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(i) **Two** hazards to be aware of when harvesting cereal crops are

1. \_\_\_\_\_

2. \_\_\_\_\_

(j) The Irish Organic Farmers and Growers Association (IOFGA) is an organisation involved with Agriculture and Horticulture in Ireland.

State **two** ways in which this organisation helps the Agriculture/Horticulture industry.

1. \_\_\_\_\_

2. \_\_\_\_\_

(k) Name **one** course in Agriculture/Horticulture available to students after their Leaving Certificate.

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Name **one** skill you would develop during this course.

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(l) State **two** features that should be included in a garden designed for wheelchair users.

1. \_\_\_\_\_

2. \_\_\_\_\_

(m) Give **two** reasons why fruit and/or vegetables should form part of a healthy diet.

1. \_\_\_\_\_

2. \_\_\_\_\_

**OR**

Give **two** factors to be considered when making a flower arrangement.

1. \_\_\_\_\_

2. \_\_\_\_\_

(n) The warning symbol in the picture means

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Name a precaution you would take with such a substance.

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(o) Give **two** reasons why silage making is more popular than hay making as a way of conserving grass.

1. \_\_\_\_\_

2. \_\_\_\_\_

(p) State **two** uses for forestry timber grown in Ireland.

1. \_\_\_\_\_

2. \_\_\_\_\_

(q) The proper name for weedkillers is

\_\_\_\_\_

Weedkillers that kill **all** parts of a plant are called

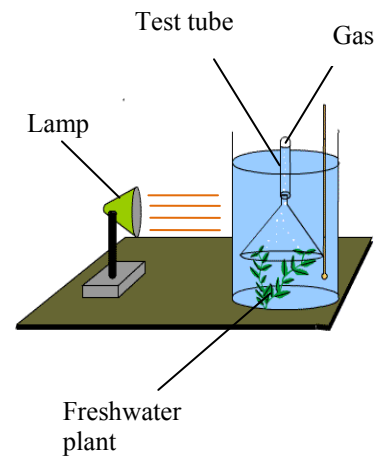
\_\_\_\_\_

(r) Name the freshwater plant usually used in the experiment shown in the picture.

\_\_\_\_\_

What gas is being collected in the test tube?

\_\_\_\_\_



**Section Two**

**(120 marks)**

Answer any 4 questions from the following 6 questions, which are based on the modules you have studied. All questions carry equal marks (30 marks each).

**2. BASIC HORTICULTURE**

(a) During the night plants respire and release the gas \_\_\_\_\_

(b) Write each term from column C in column B to match a term from column A. See shaded example.

Column A	Column B	Column C
Humus	<i>Improves soil fertility</i>	Help soil drainage
Clay particles		Slow soil drainage
Sand particles		Improves soil fertility
Silt particles		Smallest soil particles

(c) Garden tools are expensive and should be properly cared for. Describe what you would do to properly maintain the following parts of garden tools before storing the tools for the winter:

The wooden handle of a spade or shovel.

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The metal part of a spade or shovel.

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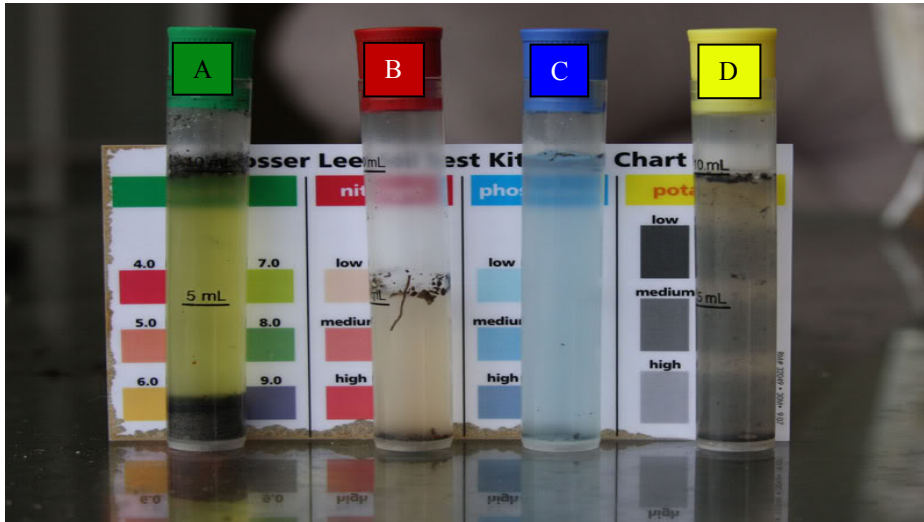
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The cutting blade of a secateurs or lopper.

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(d) The photograph and table below show the results of soil tests on some garden soil.



	Green tube (A)	Red tube (B)	Blue tube (C)	Yellow tube (D)
<b>Test</b>	pH	Nitrogen	Phosphorus	Potassium
<b>Result</b>	7.0	Low	Low	Medium

How would you increase nitrogen levels in this garden, in the short term **and** in the long term?

Short term. \_\_\_\_\_  
 \_\_\_\_\_

Long term. \_\_\_\_\_  
 \_\_\_\_\_

What would you add to the soil to **increase** the pH above 7.0? \_\_\_\_\_

Name a plant that would **then** grow well in this soil. \_\_\_\_\_

The results in the table above show that the nitrogen levels and the phosphorus levels in the soil are not ideal for plant growth.

What part of a plant grows **best** with ideal nitrogen levels in the soil?  
 \_\_\_\_\_

What part of a plant grows **best** with ideal phosphorus levels in the soil?  
 \_\_\_\_\_

### 3. GARDEN DESIGN

(a) An example of an ornamental tree grown for its dark red leaves is the \_\_\_\_\_

(b) State whether the following statements are true or false, by ticking  the correct box.

- ‘Damping off’ is caused by a fungus. True  False
- ‘Japanese’ is a garden style. True  False
- A garden trellis is made from wood only. True  False

(c) Briefly explain the meaning of each of the following terms used in garden design.

Aspect.

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Hard landscape feature.

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Perennial border.

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(d) The photographs below show some of the stages in planting a lawn.



**A**



**B**



**C**



**D**

Rearrange the letters to show the correct sequence of these stages in planting a lawn.

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In relation to each of the above stages, write a brief note of advice to a person who is planting a lawn for the first time.

Stage letter. \_\_\_\_\_

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Stage letter. \_\_\_\_\_

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Stage letter. \_\_\_\_\_

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Stage letter. \_\_\_\_\_

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What other stage of preparation might be required in the planting of a lawn?

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## 4. FLORISTRY, FRUIT & VEGETABLES

(a) In growing flowers, fruit and vegetables a common pest is \_\_\_\_\_

(b) Complete the following sentences on the lines below using the most suitable words from the list.

**Blowtorch      Chemicals      Fleece      Pesticides      Lights      Herbicide**

- Organic production is production without the use of \_\_\_\_\_
- An organic way of controlling weeds is by using \_\_\_\_\_
- An organic way of keeping pests away from a crop is by using \_\_\_\_\_

(c) The photographs below show structures used to make the growing season longer. Identify these structures and give **one** advantage **and one** disadvantage of **each**.



**A**



**B**



**C**

Name of A. \_\_\_\_\_

Advantage. \_\_\_\_\_

Disadvantage. \_\_\_\_\_

Name of B. \_\_\_\_\_

Advantage. \_\_\_\_\_

Disadvantage. \_\_\_\_\_

Name of C. \_\_\_\_\_

Advantage. \_\_\_\_\_

Disadvantage. \_\_\_\_\_

- (d) Write a brief comment on **each** of the following statements in relation to a **named** flower **or** fruit **or** vegetable.

Name of flower **or** fruit **or** vegetable. \_\_\_\_\_

Statement 1. "Local product means longer shelf life".

Comment.

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Statement 2. "Direct-to-public selling".

Comment.

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Statement 3. "Use of wholesalers".

Comment.

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Statement 4. "Novelty factor in selling".

Comment.

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## 5. FORESTRY

(a) The organisation responsible for forestry development in Ireland is \_\_\_\_\_

(b) Match each plant type in column A with the correct definition in column B to give an answer in column C.  
See shaded example.

Column A	Column B	Column C
<b>1 Shrub</b>	<b>a A tree that does not lose its leaves in winter</b>	<b>1 + c</b>
<b>2 Deciduous tree</b>	<b>b A tree that has cones</b>	
<b>3 Coniferous tree</b>	<b>c Is smaller than a tree and has several main stems</b>	
<b>4 Evergreen tree</b>	<b>d A tree that loses all its leaves in winter</b>	

(c) The photograph shows a section through a tree trunk.  
The age of the tree can be estimated from the photograph.



How can you tell the age of the tree? \_\_\_\_\_

What age was this tree? \_\_\_\_\_

Describe how you and a classmate would use a measuring tape and a small stick to measure the **height** of a tree.

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(d) It is important to locate forests in suitable areas.  
Give **two** features of an ideal forestry location.

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

How might the development of forestry affect local rivers and streams?

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

How might the development of forestry affect local wildlife?

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

How might the development of forestry affect leisure pursuits in the area?

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

## 6. GRASS

(a) The purpose of 'topping' grassland is to \_\_\_\_\_

(b) State whether the following statements are true or false, by ticking  the correct box.

- Clover is a weed of grassland. True  False
- Italian ryegrass is good for silage production. True  False
- A grass flower is called a spikelet. True  False

(c) The photographs show bales of silage and bales of hay.



At what stage of growth should grass be cut for conservation as silage?

\_\_\_\_\_

At what stage of growth should grass be cut for conservation as hay?

\_\_\_\_\_

More grass is conserved as silage than as hay. Suggest **two** reasons for this.

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

(d) The photograph shows grassland with a lot of weeds.



Describe how you would carry out an experiment to compare **two** different weedkillers.

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What steps would you take to make sure the experiment is a fair test?

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What would be the best time of the year to use a weedkiller to control weeds in grassland?

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Using a fertiliser in the days before applying a weedkiller improves the action of the weedkiller. Suggest a reason why.

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## 7. MILK AND MEAT PRODUCTION

(a) Grass tetany occurs in animals due to a lack of the mineral \_\_\_\_\_

(b) Match each term in column A with a term from column B to give an answer in column C.  
See shaded example.

Column A	Column B	Column C
<b>1 Dual purpose</b>	<b>a Fungus</b>	<b>1 + d</b>
<b>2 Liver fluke</b>	<b>b Diarrhoea</b>	
<b>3 Scour</b>	<b>c Parasite</b>	
<b>4 Ringworm</b>	<b>d Milk and meat</b>	

(c) The abattoir is the place where animals are slaughtered and meat products are prepared for delivery to butcher shops.

What is meant by 'traceability' in terms of meat production?

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What is the reason for 'hanging' meat?

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What is animal offal **and** how is it safely disposed of?

Offal. \_\_\_\_\_

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Disposal. \_\_\_\_\_

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(d) The photograph shows a modern animal house.



Identify **two** features of this type of housing design which help reduce the spread of disease.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_

Give **two** ways in which this type of housing design improves farm efficiency.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_

What is the most modern method of storing animal effluent?

\_\_\_\_\_  
\_\_\_\_\_

Describe how animal effluent is disposed of in an environmentally friendly way.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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<b>Question</b>	<b>Mark</b>
<b>Section 1</b>	
<b>1</b>	
<b>Section 2</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>5</b>	
<b>6</b>	
<b>7</b>	
<b>Grand Total</b>	
<b>Disallowed</b>	
<b>Total</b>	